DISINFECTION AGENTS

SSG TIMMONS

Terminology

- Antiseptic- Chemical used to disinfect body surfaces by inhibiting growth of Microorganisms without necessarily killing them.
- <u>Caution</u>:

  Antiseptics are used only on human tissue.

Terminology

- Disinfectants-

  Chemical used to disinfect inanimate materials/objects.

  Caution:

  Disinfection agents are used on inanimate objects only and will burn skin and tissue. Use gloves when using these products.

Terminology

- Germicide-

  Any solution that will destroy germs or microorganisms.

- Disinfection-

  A chemical or physical process of destroying all pathogenic microorganisms, except spore bearing ones.

- cidal-

  to destroy or kill (i.e. , a bacteri**cidal** agent will kill bacteria and a viru**cidal** agent will kill viruses).

- static-

  to inhibit or control growth (i.e. , a bacteriostatic agent is capable of inhibiting bacterial growth).

Classifications, Uses, advantages, Disadvantages and Microorganisms Destroyed.

- Alcohol compounds

classification - may be classed as antiseptics or disinfectant.

Uses:

Antiseptic - to clean the skin

Disinfectant - for spot cleaning or damp dusting.

Advantages

- Safe to use.
- Readily available.
- Inexpensive.

Disadvantages

- loses it’s effectiveness when it dries.
- Corrosive, may cause damage to equipment with lenses.

Note:

Use of alcohol in the OR is decreasing both as and antiseptic and disinfectant. Research has shown that alcohol loses its effectiveness after it dries. It’s also corrosive and may cause damage to equipment which contains lenses.

Types of microorganisms destroyed

- Vegetative bacteria - Common to all body surfaces.
- Tubercle bacilli - Found around respiratory equipment.
- Viruses - effective against HIV.

Chlorine compounds.

Classification- disinfectant,-cidal.

Uses

Spot cleaning of blood and body fluids.

Cleaning of spills, walls, floors ,and furniture.

Advantages

- Fast acting.
- Residual effect.

Disadvantages

- Unpleasant odor.
- Corrosive to metal.
- Can be toxic.

Types of microorganisms destroyed.

- Vegetative bacteria.
- Tubercle bacilli.
- Viruses- Main concern is infectious hepatitis, and HIV.

Vesphene

- Phenolic compounds (Vesphene) .

  Classification - Disinfectant.

  Uses- disinfecting floors, walls and furniture.

Advantages

- Residual effect- protective, continues to work even after it dries.
- Effective against organic soil such are feces.

Disadvantages

- Caustic to tissue.
- Absorbed by rubber.

Types of microorganisms destroyed.

- vegetative bacteria
- Tubercle bacilli
- spores

Guidelines for Selection of Disinfectants and Precautions for use

Guidelines for Selection of disinfectants

Level of disinfection desired.

- Low to intermediate level:

Achieved by housekeeping tasks: appropriate for floors, walls, furniture, and non-critical items- those items that touch the patient's skin (blood pressure cuffs, crutches, etc……).

High level disinfection:

Appropriate for semicritical items those items that may contact skin or mucous membranes, but do not penetrate tissue (anesthesia equipment, endoscopes, etc.....) .

For critical items that penetrate body tissues (i.e., surgical instruments, implants, and needles) sterilization is the preferred method .

Types of microorganisms destroyed.

- Vegetative bacteria.
- Tubercle bacilli.
- Spores

Precautions for use of Disinfectants

- store in well ventilated room
- keep lids securely fastened to their containers
- wear protective attire as appropriate
  - gloves
  - mask
  - gown, apron, or jumpsuit

- Maintain material safety data sheets for all chemicals that are used.

Note: Material safety data sheets (MSDS)

-information concerning, chemical properties, hazards and, directions for varied situations (for example, what to do if spilled or accidentally swallowed etc.....) .

- Use manufacture guidelines when mixing chemical with water.
- Never mix two disinfectants together.
- Dispose of liquid chemicals as directed by hospital policy and label instruction.
- Never use unlabeled bottles or containers.

QUESTIONS